

Abstract Submitted  
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**The control of Morin transition temperature on hematite  $\alpha$ - $\text{Fe}_2\text{O}_3(0001)$  thin film** SEONGHUN PARK, J.-H. PARK, POSTECH, B.-G. PARK, J.-Y. KIM, PAL — The Morin transition of  $\alpha$ - $\text{Fe}_2\text{O}_3(0001)$  thin film was investigated by using soft x-ray absorption spectroscopy (XAS). The epitaxial thin films were grown by cycles of evaporation and post-oxidation method on  $\text{Al}_2\text{O}_3(0001)$  substrate. The x-ray diffraction (XRD) revealed that the strain is changed with variation of the thickness and the buffer layer. The Morin temperature were measured by x-ray magnetic linear dichroism (XMLD). Interestingly, the Morin transition temperature increased up to room temperature in hematite thin film. In addition, the Co metal overlayer suppressed the Morin transition temperature. Finally, we discuss the magnetic anisotropy including the strain and the interlayer exchange interaction.

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